



## Monthly solutions of ice sheet mass balance at basin scale – and their associated uncertainties

Sørensen, Louise Sandberg; Barletta, Valentina Roberta; Forsberg, René

*Published in:*  
Geophysical Research Abstracts

*Publication date:*  
2012

*Document Version*  
Publisher's PDF, also known as Version of record

[Link back to DTU Orbit](#)

*Citation (APA):*  
Sørensen, L. S., Barletta, V. R., & Forsberg, R. (2012). Monthly solutions of ice sheet mass balance at basin scale – and their associated uncertainties. *Geophysical Research Abstracts*, 14, EGU2012-13282.

---

### General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.



## **Monthly solutions of ice sheet mass balance at basin scale – and their associated uncertainties.**

L. Sandberg Sørensen, V. R. Barletta, and R. Forsberg

DTU Space, National Space Institute, Geodynamics, Copenhagen, Denmark (slss@space.dtu.dk)

There are still discrepancies in published ice sheet mass balance results, even between ones based on the same data sets. It can be difficult to conclude from where the discrepancies arise, and it is therefore important to cross calibrate methods, data and models in order to determine the uncertainty associated with these.

We present mass change time series at basin scale for both Greenland and Antarctica, derived from GRACE data. We use two independent methods, several different data sets to derive mass changes associated with appropriate error bars. Then for each basin we show the GIA correction on trends with its uncertainties. The first method applied is based on a mass inversion, while the second one uses integration over a representation given in water equivalent. We find good agreement between the resulting mass changes based on the two independent methods, especially in the behaviour of time series.

We compare our GRACE derived regional estimates with independent mass change results based on altimetry data from NASA's Ice Cloud and land Elevation Satellite.